Curriculum vitae

&

Detailed memorandum
scientific publications

his

Theologou D. Athanaseli

Athens, September 2023

Contents

PERSONAL INFORMATION

FULL NAME	Theologos Athanaselis
DATE OF BIRTH	28 June 1976
PLACE OF BIRTH	Mytilene
NATIONALITY	Greek
CONTACT ADDRESS	Chrysomalousis 31B 81100 Mytilene Tel. 2251029775 email athanaselis@gmail.com

UNIVERSITY EDUCATION

2021-	Postdoctoralresearch at the Department of Cultural Technology and Communication of the University of the Aegean. ❖ Integration of natural human machine interaction in the management and promotion of cultural heritage with simultaneous impact on the improvement of the tourist product.
2001 - 2007	PhD in Electrical and Computer Engineering National Technical University of Athens (NTUA) ❖ PhD Thesis Title: "Algorithms for the application of N-grams in emotional speech recognition and text correction", Department of Signals, Control and Robotics, supervised by Prof. G. Karagiannis (Natural Language Processing)
1999 - 2000	MSc in Engineering and Physical Science in **Medicine** Department of Biological and Medical systems Imperial , Technology and Medicine**College of Science** ❖ Thesis Topic: "A new paradigm for finding shapes using the scale-space theory", Image Processing, supervision Prof. Anil Bharath (Image Editing)
1994 - 1999	Diploma in Electrical and Computer Engineering Department of Space and Telecommunications, School of Engineering Democritus University of Thrace

❖ Thesis Topic: "Weak magnetic fields and their effects on the rehabilitation of human brain dysfunctions"

PROFESSIONAL DEVELOPMENT

03/15-present	Ministry of Development/North Aegean Region
	Special Management Agency of the North Aegean Region
	Executive of Unit A'
	Electrical and Computer Engineer
12/15- today	Higher School of Pedagogical and Technological Education (ASPETE)
	North Aegean Branch

  ❖ *"Educational Research" course*
  ❖ *Course "Educational Evaluation"*
  ❖ *Course "Pedagogical Computer Applications "*

01/11-03/15	Ministry of Development
	General Secretariat for Industry,
	Directorate for Technical Industrial Policy
	Electrical and Computer Engineer
11/01-01/11	Institute of Language and Speech Processing / R.C. "Athena"
	Department of Voice Technology
	Research Assistant / Electrical and Computer Engineer
01/01-07/01	Unisystems S.A.
	Electrical and Computer Engineer

SCIENTIFIC INTERESTS

- Signal processing

  ❖ Emotional Speech Voice Recognition

    ▢ Training of Hidden Markov Models (HMMs').

    ▢ Voice Databases with emotion.

    ▢ Emotional state tracker.

    ▢ Application of statistical processing to texts.

    ▢ Dynamic time warping techniques.

  ❖ Voice denoising

  ❖ Export voice parameters

- Natural language processing

  ❖ Language Model Applications

    ▢ Corpora and statistical processing

    ▢ Semantic representation

  ❖ Applications in Language Technology

□ Extraction of linguistic and para-linguistic information

□ Human-machine communication with natural language

PUBLISHED WORK

A. Publications in peer-reviewed journals

B. Articles in books

C. Refereed conference papers

D. Dissertations

(A) PUBLICATIONS IN PEER-REVIEWED JOURNALS

A1. Athanaselis, T., Bakamidis, S., Dologlou, I., Cowie, R., Douglas-Cowie, E., & Cox, C. "ASR for emotional speech: clarifying the issues and enhancing performance." Neural Networks Elsevier Publications, Volume 18, Issue 4, (2005), pp. 437- 444.

A2. T., Athanaselis, S., Bakamidis, I., Dologlou, K., Mamouras. "N-grams: A Tool for Repairing Word Order Errors in Ill-formed Texts." *International Journal of Signal Processing*, vol. 3, no. 2, (2006), pp. 123-128.

A3. Athanaselis, T., Bakamidis, S., Dologlou, S-E., Fotinea, I. "Enhancing Speech Recognition Performance in the Presence of MRI Scanner Noise." *International Journal of Signal and Imaging Systems Engineering*, vol. 3, no. 3, (2010), pp. 179-187.

A4. Athanaselis, T., Mamouras, K., Bakamidis, S., Dologlou, I. "A Corpus-Based Technique for Repairing Ill-Formed Sentences with Word Order Errors Using Co-Occurrences of N-Grams." *International Journal on Artificial Intelligence Tools*, vol. 20, no. 3, World Scientific Publishing Company, (2011), pp. 401-424.

A5. Fotinea, E.-S., Dologlou, I., Bakamidis, T., Athanaselis, S. "Decimative Spectral Estimation With Unconstrained Model Order." *Computational and Mathematical Methods in Medicine*, vol. 2012, Hindawi Publishing Corporation, (2012), Article ID 917695, doi:10.1155/2012/917695.

A6. Athanaselis, T., Bakamidis, S., Dologlou, I., Argyriou, E.N., Symvonis, A. "Making Assistive Reading Tools User-Friendly: A New Platform for Greek Dyslexic Students Empowered by Automatic Speech Recognition." *Multimedia Tools and Applications*, Online First, 12 May (2012), DOI: 10.1007/s11042-012-1073-5.

(B) BOOK ARTICLES

B1. S-E. Fotinea, S. Bakamidis, T. Athanaselis, I. Dologlou, G. Carayannis, R. Cowie, E. Douglas-Cowie, N. Fragopanagos, J.G. Taylor. "Emotion in Speech: Towards an Integration of Linguistic, Paralinguistic and Psychological Analysis." *Lecture Notes in Computer Science (LNCS)*, edited by O. Kaynak et al., Springer-Verlag Berlin Heidelberg, (2003), (ISSN: 0302-9743), Vol. 2714 / 2003, pp. 1125-1132.

B2. T. Athanaselis, S-E. Fotinea, S. Bakamidis, I., Dologlou, G. Giannopoulos. "Signal Enhancement for Continuous Speech Recognition." *Lecture Notes in Computer Science (LNCS)*, edited by O. Kaynak et al., Springer-Verlag Berlin Heidelberg, (2003), (ISSN: 0302-9743), Vol. 2714 / 2003, pp. 1117-1124.

B3. T. Athanaselis, S. Bakamidis, and I., Dologlou. "A Fast Algorithm for Words Reordering Based on Language Model." *Lecture Notes in Computer Science (LNCS)*, edited by S. Kollias et al., Springer-Verlag Berlin Heidelberg, (2006), (ISSN: 0302-9743), Volume 4132/2006, pp. 943-951.

B4. T., Athanaselis, K., Mamouras, S., Bakamidis, I., Dologlou. "Sentence-level Evaluation Using Co-occurrences of N-grams." *Lecture Notes in Computer Science (LNCS)*, edited by V. Kurkova, R. Neruda, and J. Koutnik : ICANN 2008, Part I, (LNCS) 5163, Springer-Verlag Berlin Heidelberg, (2008), pp. 750–758.

B5. T., Athanaselis, S., Bakamidis, I., Dologlou . "Performance Evaluation of a Novel Technique for Word Order Errors Correction Applied to Non-Native English Speakers' Corpus." edited by A. Gelbukh, *CICLing 2011, Part II, (LNCS) 6609, Springer-Verlag Berlin Heidelberg* , (2011), pp. 402–410.

(C) ARTICLES IN CONFERENCES WITH REVIEWERS

C1. Athanaselis, T., Bakamidis, S., Fotinea, S.-E., Dologlou, I., Fragapanagos, N., Taylor, J.G., Cowie, R., Douglas-Cowie, E. "Impact of Speech Enhancement on ASR Confidence Score." *Proceedings of EUNITE 2003*, (2003), pp. 548-552, Oulu, Finland.

C2. Fragopanagos, N., Taylor, J.G., Cowie, R., Douglas-Cowie, E., Athanaselis, T., Fotinea, S-E., Bakamidis, S., Dologlou, I. "Detecting Moving Emotion." *Proceedings of EUNITE 2003*, (2003), pp. 542-547, Oulu, Finland.

C3. Giannopoulos, G., Fotinea, S-E., Chalamandaris, A., Athanaselis, T., Carayannis, G. "Analysis and Modelling of the Carrier Declination for the Greek Language." *Proceedings of the 15th International Congress of Phonetic Sciences - ICPhS03*, 3-9 August (2003), Barcelona, pp. 555-558.

C4. Athanaselis, T., Bakamidis, S., Fotinea, S-E., Dologlou, I. "Impact of Speech Enhancement on ASR Time Stamping." *Proceedings of EUNITE 2004*, (2004),Aachen, Germany, pp. 452-457.

C5. Athanaselis, T., Bakamidis, S., Dologlou, I. "Improving Speech Recognition Performance in Noisy Environments." *Proceedings of the 7th Hellenic-European Conference on Computer Mathematics and its Applications (HERCMA'2005)*, (2005), Athens, Greece.

C6. Athanaselis, T., Bakamidis, S., Dologlou, I. "Words Reordering Based on Statistical Language Model." *Proceedings of the Transactions on Engineering, Computing and Technology, ICCS'06*, Volume 12, March 29-31 (2006), Vienna, Austria, pp. 270-273.

C7. Athanaselis, T., Bakamidis, S., & Dologlou. "A Comparative Study of ASR Performance in Different Emotional States." *Proceedings of the XXVIII-th International Congress of Audiology*, Innsbruck, Austria, (2006), pp. 98-102.

C8. Athanaselis, T., Bakamidis, S., & Dologlou. "An Automatic Method for Revising Ill-formed Sentences Based on N-grams." *Proceedings of the 3rd International Conference on Speech Prosody*, Dresden, Germany, (2006), pp. 370-373.

C9. Athanaselis, T., Bakamidis, S., and Dologlou. "Automatic Recognition of Emotionally Colored Speech." *Proceedings of the Transactions on Engineering, Computing and Technology, ICCS'06*, vol. 12, March 29-31, (2006), Vienna, Austria., pp. 274-277.

C10. Athanaselis, T., Bakamidis, S., and Dologlou. "A New Approach for Words Reordering Based On Statistical Language Model." *Proceedings of the 11-th International Conference Speech and Computer*, (2006), SPECOM,pp. 463-466.

C11. Athanaselis, T., Bakamidis, S., and Dologlou. "Recognizing Verbal Content of Emotionally Colored Speech." *Proceedings of the 14th European Signal Processing Conference (EUSIPCO)*, (2006).

C12. Athanaselis, T., Bakamidis, S., and Dologlou. "Impact of the Cocktail Party Effect on the Confidence Accuracy of Emotional Speech Recognizer." *Proceedings of the 18th BeNeLux Conference on Artificial Intelligence (BNAIC)*, (2006), Namur, Belgium.

C13. Athanaselis, T., Bakamidis, S., and Dologlou. "A Statistical Method for Correcting Word Order Errors in Greek Texts." *Proceedings of the 2nd International Conference of IASTED on Computational Intelligence (CI)*, (2006), San Francisco, pp. 502-506.

C14. Athanaselis, T., Bakamidis, S., Dologlou, I. "Evaluating ASR Confidence Score Performance in Different Noisy Conditions." *Proceedings of the 12-th International Conference Speech and Computer (SPECOM)*, (2007), pp. 207-211.

C15. Athanaselis, T., Mamouras, K., Bakamidis, S., Dologlou, I. "User Evaluation of a Novel Technique for Word-Order Error Correction." *Proceedings of the 3rd Language & Technology Conference: Human Language Technologies as a Challenge for Computer Science and Linguistics*, October 5-7, (2007), Poznań, Poland..

C16. Athanaselis, T., Bakamidis, S., Dologlou, I. "A Novel Technique for Words Reordering Based on N-Grams." *Proceedings of the International Symposium on Signal Processing and its Applications*, in conjunction with the International Conference on Information Sciences, Signal Processing and its Applications, (2007), Sharjah, United Arab Emirates (U.A.E.), Article number 4555284.

C17. Athanaselis, T., Bakamidis, S., Giannopoulos, G., Dologlou, I., Fotinea, E. "Robust Speech Recognition in the Presence of Noise Using Medical Data." *Proceedings of the IEEE International Workshop on Imaging Systems and Techniques (IST)*, ISBN: 978-1-4244-2497-9, (2008), pp. 349-353.

C18. Athanaselis, T., Bakamidis, S., Dologlou, I. "Reducing the Cocktail Party Effect Prior to Automatic Speech Recognition." *Proceedings of the 13th International Conference Speech and Computer (SPECOM)*, (2009), pp. 360-363.

C19. Athanaselis, T., Bakamidis, S., Dologlou, I., Fotinea, E. "Impact of MRI Scanner Noise on Speech Recognition Confidence Score." *Proceedings of the 4th Language & Technology Conference: Human Language Technologies as a Challenge for Computer Science and Linguistics*, November 6-8 (2009), Poznań, Poland.

C20. Guimaraes, R., Athanaselis, T., Bakamidis, S., Dologlou, I., Fotinea, E. "A Vocal User Interface Plug-in for jMRUI." *Proceedings of the IEEE International Workshop on Imaging Systems and Techniques (IST 2010)*, (2010), pp. 384-388.

C21. Athanaselis, T., Bakamidis, S., Dologlou, I., Argyriou, E., Symvonis. "Incorporating Speech Recognition Engine into an Intelligent Assistive System for Dyslexic Students Reading." *Proceedings of the 12th Annual Conference of the International Speech Communication Association (Interspeech 2011)*, (2011), Italy, pp. 2993-2996.

DISSERTATIONS

D1. **T. Athanaselis** "Algorithms for the application of N-grams in emotional speech recognition and text correction", PhD thesis, Department of Signals, Control and Robotics, National Technical University of Athens, (2007).

D2. **T. Athanaselis** "A new paradigm for finding shapes using the scale-space theory" MSc dissertation Imperial College, (2000).

D3.   **T. Athanaselis**, "Weak magnetic fields and their effects on the rehabilitation of cerebralhuman dysfunctions", Diploma Thesis, School of Electrical and Computer Engineering, University of Thrace, (1999).

PARTICIPATION IN RESEARCH-DEVELOPMENT PROGRAMS

2002-2004	**"IST-ERMIS"** -(Emotionally Rich Man-machine Intelligent System) Funded 5th FWP (Fifth Framework Programme) *Participation in voice recognition issues from emotional data.*
2007-2009	**"IST-AGENT_DYSL"-**(Accommodative intelliGENT educational environments for DYSLexic learners) Funded FP6-IST Participation in issues related to the adaptation of the voice recognition system to people with learning difficulties.
2004-2008	**"IST-HEARCOM"-**(Hearing in the communication society) Funded FP6-IST *participation in issues related to the integration of the voice recognition system in server-user* environments for people with disabilities.
2007-2009	**"IST-SOPRANO"-**(Service Oriented PRogrammable smArt enviroNments for Older Europeans) Funded FP6-IST *Participation in issues related to the integration of voice recognition system in smart homes.*
2006-2007	**"EDL-Spontaneous"**-(Spontaneous speech voice recognition) Program "Image, Sound and Language Processing" General Secretariat for Research and Technology, Ministry of Research *participation in issues related to the enrichment of the language model.*
2006-2008	**"EDL-SUB 4ALL"**-(Automatic Subtitling Technologies) Program "Image, Sound and Language Processing" General Secretariat for Research and Technology, Ministry of Research *participation in issues related to the indexing of radio and television broadcasts.*
2011-2013	**"Eloquent"-(**Online Service for the Improvement of Reading Skills for Dyslexic People), 2007-2013, O.P. DIGITAL CONVERGENCE, ICT and Improvement of Quality of Life, Objective 1 - Convergence & Objective 2 - Regional Competitiveness & Employment, European Regional Development Fund (ERDF) *participation in issues related to the adaptation of the voice recognition system to an online reading assistance service for minors with learning difficulties.*
2016-2019	**"MEDNICE"** MED Program Networks for an Innovative Cooperation in Energy Efficiency of the European Program Interreg MED. North Aegean Region Project coordinator

PARTICIPATION IN TRAINING SEMINARS

30/05/2001	Microsoft Approved course "Mastering Microsoft Visual Basic 6 Development"
	ITEC Consultancy
	Microsoft Certified Technical Education Center
25/06/2001	Microsoft Approved course "Accelerated training for MS-SQL Server 7.0"
	ITEC Consultancy
	Microsoft Certified Technical Education Center

TEACHING EXPERIENCE/LECTURES

- National Technical University of Athens, School ofElectrical and Computer Engineering, assistant in teaching the course "Signals and Systems".

- " EFTECHNOS" seminars on Assistive Information and Telecommunications Technologies for People with Disabilities. Topic of speech: Introduction to the field of voice recognition, emotional speech.

- Invited Speaker PRO-VE'09 10th IFIP Working Conference on VIRTUAL ENTERPRISES, Thessaloniki, GREECE, 7-9 October 2009: ASR for emotional speech: Clarifying the issues and enhancing performance

USE OF SOFTWARE

- Programming

  - ❖ Microsoft Visual Studio C/C++, Visual Basic 6.0

  - ❖ MATLAB R2007b

- Audio Editing

  - ❖ Praat 5.1.15, Audacity 1.2.6, Cool Edit 2000, WavePad Sound Editor, Sound Forge 9.

- Image Editing

  - ❖ Adobe Photoshop CS3, Adobe Illustrator CS3.

MEMBER OF COLLECTIVE BODIES/SCIENTIFIC ASSOCIATIONS

- Technical Chamber of Greece (TEE)

    ❖ Standing Committee on Informatics and Telecommunications of the Technical Chamber of Greece

- Panhellenic Association of Mechanical and Electrical Engineers

- North Aegean Regional Research and Innovation Council

FOREIGN LANGUAGES

- English
    ❖ First Certificate in English, MSc in Engineering and Physical Science in Medicine

- French
    ❖ Certificat de Langue Francais, D.E.L.F A3,A4